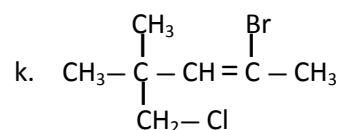
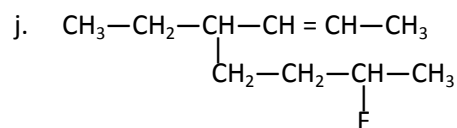
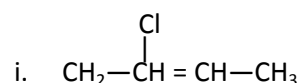
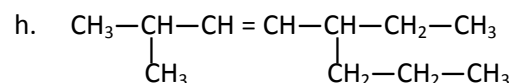
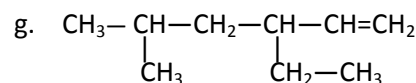
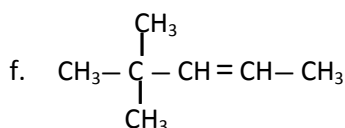
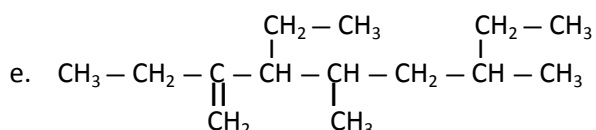
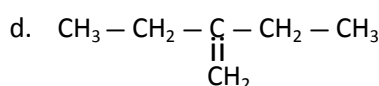
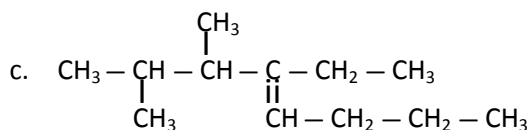
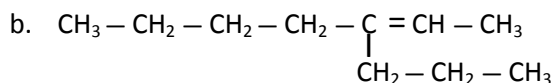
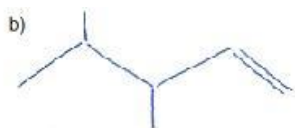


## Alkenes — Naming, drawing and reactions

1. Name each hydrocarbon.



2. Name each hydrocarbon.



3. Draw a condensed structural diagram for each compound.

a. 2-butene

b. 3-heptene

c. 2-methyl-1-butene

d. 3-ethyl-2-pentene

e. 2-methyl-2-heptene

f. 3,4-dimethyl-2-pentene

g. 4-ethyl-2-methyl-2-hexene

h. 5-ethyl-3,4,6-trimethyl-2-octene

i. 3-ethyl-2,3,4,4-tetramethyl-1-pentene

j. 2-chloro-1-propene

k. 2,3-dibromo-2-pentene

l. 1-iodo-2-methyl-2-pentene

4. You have seen that alkanes, such as  $\text{C}_5\text{H}_{12}$ , can have isomers. Draw condensed structural formulas for isomers of  $\text{C}_4\text{H}_8$ . Then name the isomers.

5. Draw and name the cis-trans isomers for  $\text{C}_5\text{H}_{10}$ .

6. Why can 1-butene not have cis-trans isomers? Use structural diagram to explain.

7. Like other isomers, two cis-trans isomers have the same atomic weight. They also yield the same elements when decomposed. How might you distinguish between two such isomers in the lab?

8.  $\text{C}_6\text{H}_{12}$  has four possible pairs of cis-trans isomers. Draw and name all four pairs.